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# Foreign Income and Domestic Deductions

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# Foreign Income and Domestic Deductions

**Abstract** - *To what extent should taxpayers deduct expenses incurred domestically that contribute to foreign income production? It is widely believed that if the home country does not tax foreign income, then it also should not permit deductions for that portion of domestic expenses attributable to earning foreign income. This prescription is, however, inconsistent with the decision to exempt foreign income from taxation in the first place. The paper shows that, for any system of taxing foreign income, the consistent and efficient treatment is to permit domestic expense deductions for all expenses incurred domestically. This differs from the current U.S. regime, under which American firms were required to allocate more than \$110 billion of domestic expenses against foreign income in 2004.*

## INTRODUCTION

Income tax systems, such as that used by the United States, permit taxpayers to claim deductions for expenses incurred in the course of earning income. Thus, a taxpayer who spends \$100 on labor and materials to produce output subsequently sold for \$140 will be taxed on income of only \$40, since the \$100 expense is deductible for tax purposes. Any sensible income tax must permit expense deductions, since otherwise it becomes a form of turnover tax, taxing gross rather than net income, overstating the incomes of some taxpayers, and reducing the efficiency of the economy by prompting excessive vertical integration and discouraging other activities that add economic value.

In an open economy, a taxpayer may incur expenses in one jurisdiction that contribute to producing income in other jurisdictions. What is the appropriate tax treatment of such expenses?

It is natural to match expense deductions against revenue attributable to the expenses. As a practical matter, however, considerable challenges arise in matching deductions against income for certain types of expenses, such as interest expense or general and administrative expense, that are general to a firm and difficult to attribute to particular activities. If a large multinational firm headquartered in the United States and with operations in 20 other countries spends \$80 million on headquarters activities in the United States, the foreign countries typically do not permit the firm to take local tax deductions for any portion of the \$80 million headquarters expense. What then should be the policy of the home country—should

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the firm be permitted to deduct the \$80 million against its U.S. income or should that deduction be limited by apportioning some fraction of the \$80 million against its income in other countries?

The common answer to this question is that it depends on the nature of the home country tax regime. So this reasoning goes, the firm should be permitted to claim home country deductions only for that part of an expense that produces income taxed by the home country. Hence, if a firm is resident in a country that taxes domestic but not foreign income, it follows that the portion of domestic expenses incurred to produce foreign income should not be deductible in the home country.

The analysis in this paper takes issue with this answer, instead concluding that the only policy consistent with efficiency, given the refusal of foreign governments to allow taxpayers to take deductions for general expenses incurred outside their countries, is to permit full domestic deductibility of expenses incurred in the home country. Full domestic deductibility is a feature of any efficient tax regime, including residence based worldwide tax systems with and without provision of foreign tax credits, and a system in which the home country exempts active foreign business income from taxation. All that is necessary is that the home country tax regime be tailored to promote home country welfare efficiently, and if it is, then full domestic deductibility is an efficient policy.

The claim that full domestic deductibility of home country expenses promotes efficiency is perhaps unintuitive and is certainly inconsistent with current U.S. policy and most prior analysis of this subject. In order to appreciate why full domestic deductibility is efficient, it is necessary to understand why countries have the international tax systems they do. This is particularly important in the cases of countries that exempt foreign income from taxation. Such tax systems appear

inefficient from the standpoint of single investment decisions in isolation, since from this perspective they seem to give excessive incentives to invest in low-tax foreign countries. Hence, if an exemption system is efficient, it must be that its efficiency stems from considerations omitted by considering just one investment at a time. Since new investments trigger reactions by investors and their competitors, it is important to incorporate these reactions in evaluating the welfare properties of exempting foreign income from home country taxation. It is from the standpoint of all of the induced reactions that permitting full domestic expense deductibility makes considerable sense, since the failure to permit deductibility would distort asset ownership patterns and thereby reduce the productivity of domestic business operations.

It should not be surprising that a fully efficient tax system permits complete deductibility of domestic expenses. It is an efficient, and virtually universal, practice to permit full deductibility of domestic expenses incurred by firms that earn only domestic income, since efficient taxation preserves incentives to spend \$1 to create more than \$1 of pretax economic return. But a tax system that maximizes the welfare of the residence country also taxes foreign income in a way that makes the residence country indifferent between a marginal dollar of activity undertaken by one of its firms at home or abroad. If this were not so—if, for example, the home government would prefer that its firms concentrate more of their activity at home at the expense of activities abroad—then the tax treatment of foreign income must not be optimal in the first place. Hence, with optimal tax systems the value of foreign activity at the margin is the same as the value of domestic activity, so if an expense is properly deductible when producing domestic income, efficiency requires that it also be deductible when producing foreign income.

The second section of the paper describes international practice in permitting expense deductions and reviews evidence of the impact of the U.S. system of allocating domestic expenses against foreign income. The third section of the paper summarizes the efficiency rationales underlying competing systems of taxing foreign income. The fourth section analyzes the deductibility of domestic expenses with worldwide and territorial (exemption) tax systems, finding in every case that the efficient treatment corresponds to full domestic deductibility. The fifth section is the conclusion.

### DOMESTIC EXPENSE DEDUCTIONS IN PRACTICE

The tax treatment of domestic expenses incurred by multinational businesses varies between countries and over time within the same country. Most of the world exempts active foreign business income from taxation and also effectively permits taxpayers full domestic tax deductions for general domestic business expenses, such as interest expense and general and administrative expenses. The details of these policies differ among countries; some permit blanket domestic expense deductibility, whereas others use tracing rules that require taxpayers to identify the income streams that deductible expenses are incurred to produce.<sup>1</sup> As a practical matter, tracing rules are largely equivalent to blanket domestic deductibility (Shaviro, 2001), since the unwillingness of foreign governments to grant tax deductions for domestic expenses gives taxpayers incentives to arrange their tracing to maximize domestic deductions. Most countries limit the deductibility of domestic interest expenses with “thin capitalization” rules of one form or another (Buettner, Overesch, Schreiber, and Wamser 2008),

and while these typically apply even to purely domestic firms, there may be additional restrictions on interest deductions taken by foreign-owned firms and firms whose foreign affiliates have capital structures that differ greatly from those of their parent companies. In addition, there are countries that exempt slightly less than 100 percent of active foreign business income (France exempts only 95 percent, for example) to compensate, in some very rough sense, for permitting full domestic deductibility of home country expenses.

### *U.S. Expense Allocation Rules and Their Impact*

The United States currently allows full deductibility of domestic expenses, but also requires taxpayers to allocate domestic expenses against foreign income for purposes of calculating foreign tax credits, thereby effectively limiting the deductibility of these expenses in some cases. Different rules apply to research and development (R&D) expenses, interest expenses, and other expenses that are supportive in nature, including overhead, general and administrative expenses, supervisory expenses, advertising, marketing, and other sales expenses. In the case of supportive expenses, such as general and administrative expenses, firms are entitled to deduct expenses incurred in the United States, but must allocate a portion of these expenses against foreign income based on the fraction of total income from foreign sources or activity undertaken in foreign countries. The significance of allocating these expenses against foreign income is that doing so reduces the foreign tax credit limit, thereby reducing the taxpayer’s ability to offset its U.S. tax liability on foreign income with credits for foreign income tax payments. This is consequential only for

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<sup>1</sup> U.S. Congress, Joint Committee on Taxation (2008) describes the practices of other countries, and Slaats (2007) offers a review of recent international developments in the deductibility of interest and other expenses.

taxpayers with excess foreign tax credits, since for those without excess foreign tax credits the limit does not bind. American taxpayers have excess foreign tax credits if their average foreign tax rates exceed the U.S. rate, and in the absence of expense allocation these taxpayers would owe no U.S. tax on their foreign incomes. For these taxpayers, reducing by one dollar the net foreign income used to calculate the foreign tax credit limit increases their U.S. tax liability by an amount equal to the marginal U.S. tax rate. This exactly offsets the value of the original deduction, so the U.S. system effectively denies domestic expense deductions for the allocated portion of general and administrative expenses incurred by taxpayers with foreign income taxed so heavily by foreign governments that it winds up untaxed by the United States. Taxpayers whose foreign income is lightly taxed by foreign governments, and who, therefore, owe residual U.S. tax on that income, receive the benefit of full domestic deductibility of expenses incurred in the United States.

Different, and rather more strict, rules apply to the allocation of interest expenses and R&D expenses, though with similar effect. Interest expenses are allocated against foreign source income based on relative values of domestic and foreign assets as calculated using a method that is widely criticized (e.g., Shaviro (2001) on several grounds, including that it ignores foreign borrowing; this system is currently scheduled to change in 2009. Half of a multinational firm's U.S. R&D expense is allocated against U.S. income, with

the remaining half apportioned between domestic and foreign source based on relative sales or income. For all of these expenses the allocation rules matter only if taxpayers have excess foreign tax credits, in which case they are tantamount to denying domestic deductions for that portion of expenses allocated against foreign income. Different rules prevailed prior to passage of the Tax Reform Act of 1986, and the evidence indicates that American firms with excess foreign tax credits responded to the tax reform by changing their domestic borrowing patterns and domestic R&D spending around the end of 1986 in reaction to the higher after-tax cost of domestic borrowing and domestic R&D activity.<sup>2</sup>

These rules significantly influence the tax positions of American firms. Table 1 presents data on the aggregate volume of corporate expense deductions allocated against foreign income between 1992 and 2004. In 2004, American corporations allocated \$110.8 billion of domestic expenses against foreign income, of which interest expenses accounted for \$42.0 billion and R&D expenses accounted for \$13.5 billion. Total allocated domestic expense represents more than 45 percent of the \$241.5 billion taxable foreign income of American firms in that year, and was even higher fractions of taxable foreign income in other years.<sup>3</sup>

Table 2 provides an industry breakdown of these allocated domestic expenses in 2004. Manufacturing corporations allocated \$46.1 billion of total domestic expenses against foreign income of \$154.6

<sup>2</sup> Collins and Shackelford (1992), Froot and Hines (1995) and Altshuler and Mintz (1995) analyze responses to the interest allocation rules introduced in 1986, and Hines (1993) analyzes the response of R&D activity to changes in the R&D expense allocation rules. These studies provide greater detail on the reforms and the incentives they created.

<sup>3</sup> Expense allocation matters only if a firm has excess foreign tax credits, which not all American firms do, so it would be inaccurate to conclude that allocating \$110 billion of expenses to foreign income at a tax rate of 35 percent increases the U.S. tax liabilities of American firms by \$38.5 billion. But since a taxpayer's foreign tax credit status is itself the product of many purposeful choices that are influenced by the expense allocation rules, it is not correct either to take the foreign tax credit status as given in evaluating the cost of expense allocation.

## Foreign Income and Domestic Deductions

**TABLE 1**  
DOMESTIC CORPORATE EXPENSES ALLOCATED AGAINST FOREIGN INCOME, 1992–2004

Year	Number of returns	Deductions not allocable to specific types of income				Taxable foreign income (less loss) before adjustments	Foreign tax credit claimed
		Total	Research and development	Interest	Other		
1992	5,147	46,074,597	3,322,556	22,125,537	17,546,722	86,924,737	21,532,736
1993	6,322	56,490,849	3,031,964	26,319,175	26,706,975	94,687,024	22,894,610
1994	7,199	60,002,879	4,937,048	26,629,892	26,872,347	101,521,278	25,418,684
1995	6,710	79,650,578	8,198,150	35,916,338	34,779,814	120,517,753	30,415,605
1996	6,100	88,355,742	9,232,584	35,536,186	41,326,284	150,826,345	40,254,937
1997	6,569	94,428,510	9,565,637	43,342,264	40,176,836	157,989,290	42,222,743
1998	5,927	94,247,133	9,876,318	49,478,293	32,808,117	147,116,869	37,338,380
1999	5,789	102,542,312	9,539,700	51,322,499	41,287,061	165,712,961	38,271,294
2000	5,917	125,377,761	11,364,335	63,781,017	49,133,088	196,675,289	48,355,433
2001	5,478	109,909,312	9,122,373	52,679,130	47,638,165	164,753,343	41,358,458
2002	4,767	79,729,471	9,118,649	32,748,184	36,911,292	160,855,609	42,419,115
2003	5,409	93,226,238	11,961,592	32,120,658	47,669,031	205,129,663	49,963,270
2004	5,502	110,817,387	13,485,504	42,001,568	54,391,211	241,493,136	56,593,276

Source: Statistics of Income Division, U.S. Internal Revenue Service.

Note: Entries are drawn from information reported by corporations claiming the foreign tax credit. Figures in the table are thousands of current dollars.

**TABLE 2**  
INDUSTRY DETAIL OF FOREIGN EXPENSE ALLOCATION, 2004

Industries	Number of returns	Deductions not allocable to specific types of income				Taxable foreign income (less loss) before adjustments	Foreign tax credit claimed
		Total	Research and development	Interest	Other		
All industries	5,502	110,817,387	13,485,504	42,001,568	54,391,211	241,493,136	56,593,276
Agriculture, forestry, fishing, and hunting	210	*21,971	*673	*10,534	*10,633	107,736	11,559
Mining	112	1,022,125	*23,501	482,400	482,337	4,418,975	1,434,081
Utilities	7	*54,649	0	*29,501	*25,026	*89,888	*29,961
Construction	235	21,810	*101	*890	*20,493	108,170	21,821
Manufacturing	1,039	46,096,041	10,906,052	15,239,527	19,617,336	154,593,276	37,151,333
Wholesale and retail trade	658	2,686,030	70,576	1,019,125	1,445,641	11,669,584	2,985,951
Transportation and warehousing	68	1,335,443	*25,432	8,600	1,295,194	2,444,326	197,508
Information	607	6,660,160	2,145,207	704,809	3,753,108	14,580,764	2,764,509
FIRE	965	23,114,114	*15,804	11,017,958	11,823,907	29,584,426	5,745,227
Services	1,603	29,805,044	298,157	13,488,225	15,917,537	23,895,992	6,251,328

Source: Statistics of Income Division, U.S. Internal Revenue Service.

Note: Entries are drawn from information reported by corporations claiming the foreign tax credit in 2004. Figures in the table are thousands of 2004 dollars. Entries in cells marked by an asterisk (\*) are based on such small numbers of significant reporting firms that the figures may be unreliable.

billion. Service industry corporations and those in the finance, insurance and real estate industries allocated a total of \$49.9 billion of domestic expenses against total foreign income of just \$53.5 billion, the allocated expenses representing a much

larger fraction of foreign income than in manufacturing. Manufacturing firms accounted for \$10.9 billion of the \$13.5 billion total allocated R&D expense, but significantly smaller fractions of other expenses.

The U.S. expense allocation rules influence the demand for R&D, administrative, and other activities in the United States, since firms with highly taxed foreign income do not benefit from full tax deductibility even in cases in which they incur expenses in order to earn income in the United States. The reason is that the allocation method does not attempt to identify the location of income generated by each expense, but instead implicitly attributes location on the basis of total foreign and domestic income and activity. More importantly, the expense allocation rules discourage foreign activity and foreign income production by firms with excess foreign tax credits, since the scope of its foreign operations affects the ability of a firm to benefit from tax deductions for a given amount of domestic expense. This limit on the effective deductibility of domestic expenses acts as a type of tax on marginal foreign activity, one whose rate depends on the firm's excess foreign tax credit status and the magnitude of its allocable domestic expenses. This tax encourages firms to substitute domestic for foreign activity, with greater substitution incentives for firms with significant domestic expenses.

### *Reform Proposals*

Numerous recent reform proposals would change U.S. taxation of foreign income by exempting active foreign business income from U.S. taxation. As proposed, schemes such as those analyzed by Graetz and Oosterhuis (2001), Grubert and Mutti (2001), and Altshuler and Grubert (2008) would exempt from U.S. taxation dividends received from foreign subsidiaries. At the same time, these reforms would limit the ability of American firms

to deduct domestic expenses for interest and supportive activities such as general and administrative activities. These expenses would be allocated between domestic and foreign income based on measures of domestic and foreign assets or incomes, with the portion allocated to foreign income effectively nondeductible for domestic (or foreign) tax purposes. The same treatment of domestic expenses appears in the territorial tax reform proposals considered by the U.S. Congress, Joint Committee on Taxation (2005), the President's Advisory Panel on Federal Income Tax Reform (2005), and the U.S. Treasury (2007). Hence, from a U.S. tax reform proposal standpoint, exempting foreign income from taxation appears to be closely associated with limiting the deductibility of domestic expenses.

This is a curious association, since exempting foreign income from home country taxation while limiting the deductibility of domestic expenses based on levels of foreign and domestic activity essentially replaces one tax on foreign operations with another. An expense allocation method that permits taxpayers to claim domestic tax deductions for only a fraction of domestic expenses, with the fraction equal to the ratio of domestic to total income, penalizes earning foreign income and rewards earning domestic income. The implied tax rate on foreign income is the product of the statutory tax rate, the ratio of domestic expenses to worldwide income, and the ratio of domestic to worldwide income. The implied rate of subsidy for producing domestic income is the product of the statutory tax rate, the ratio of domestic expenses to worldwide income, and the ratio of foreign to worldwide income.<sup>4</sup> Replacing a tax on foreign income with

<sup>4</sup> This is apparent by writing the firm's cost of domestic expense allocation as  $Rt(F/F + D)$ , in which  $R$  is the level of allocable domestic expense,  $t$  is the domestic tax rate,  $F$  is foreign income, and  $D$  is domestic income. Differentiating this expression with respect to  $F$  produces:  $[R/(F + D)][D/(F + D)]$ . Similarly, differentiating the expression with respect to  $D$  yields:  $-[R/(F + D)]t[F/(F + D)]$ .

an exemption system that limits the deductibility of domestic expenses does not remove the tax burden on foreign business activity, but instead merely changes the form of the tax burden and makes it less transparent.

There is an understandable appeal to limiting the deductibility of domestic expenses when the foreign portion of a firm's income is exempt from domestic taxation, and indeed, tax systems commonly restrict expense deductibility if the underlying income is untaxed. A prominent example, frequently cited by international tax reform proposals, is the restriction preventing American taxpayers from deducting interest payments if the borrowed capital is devoted to tax-exempt investments such as state and local bonds. This restriction on interest deductibility is intended to prevent arbitrage, though it is widely believed that, in the case of state and local bonds, its net effect is actually to create arbitrage opportunities by restricting demand for tax-preferred assets to a limited clientele of high tax rate potential buyers. Critics (e.g., Shakow (1987)) have called for repealing the restriction on interest deductibility to eliminate this problem, which might serve as a cautionary tale for those who would limit domestic expense deductibility in a territorial tax system.

## THE TAXATION OF FOREIGN INCOME<sup>5</sup>

The older wisdom in the international tax policy area is that worldwide taxation of business income with provision of foreign tax credits promotes world welfare, whereas worldwide taxation of business income without foreign tax credits (instead permitting taxpayers to deduct foreign tax payments in calculating taxable income) promotes domestic wel-

fare. These claims about the underlying welfare economics, introduced by Peggy Musgrave (Richman, 1963; Musgrave, 1969) and subsequently quite influential, have come under considerable academic fire in recent years. Modern economic thinking parts company with Musgrave's analysis in incorporating the effects of world capital markets and, in particular, the impact of ownership on capital asset productivity.

### *Capital Export Neutrality and National Neutrality*

The Musgrave notion of capital export neutrality is the doctrine that the return to capital should be taxed at the same total rate regardless of the location in which it is earned. If a home country tax system satisfies capital export neutrality, then investments that maximize after-tax returns also maximize pre-tax returns, and there are then circumstances in which decentralized profit-maximizing behavior is consistent with global economic efficiency. The capital export neutrality concept is frequently invoked as a normative justification for the design of tax systems similar to that used by the United States, since accrual taxation of worldwide income with provision of unlimited foreign tax credits satisfies capital export neutrality. This does not describe the U.S. tax system, however, since taxpayers are permitted to defer home country taxation of certain unrepatriated foreign income, and foreign tax credits are limited, but the capital export neutrality notion is nevertheless the basis of the argument that systems of taxing foreign income similar to that used by the United States enhance world welfare. The argument can then be extended to say that, due to international cooperative bargaining, countries that adopt tax policies advancing world welfare thereby

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<sup>5</sup> This section draws on material in Desai and Hines (2003, 2004) and Hines (forthcoming).



may ultimately advance even their own welfares (Shaviro, 2007).

The Musgrave analysis implies that governments that seek to maximize national but not necessarily world welfare should tax the foreign incomes of their resident companies while permitting only deductions for foreign taxes paid. Such taxation satisfies what is known as national neutrality, discouraging foreign investment by imposing a form of double taxation, but doing so in the interest of the home country that disregards the value of tax revenue collected by foreign governments. From the standpoint of the home country, foreign taxes are simply costs of doing business abroad and, therefore, warrant the same treatment as other costs, for which it is appropriate to give deductions and not credits against home country taxes. In this analysis, the home country's desired allocation of capital is one in which its firms equate marginal after-tax foreign returns with marginal pretax domestic returns, a condition that is satisfied by full taxation of foreign income after deduction of foreign taxes. This line of thinking suggests that the American policy of taxing foreign income while granting foreign tax credits is far too generous from the standpoint of the United States. In this view there is a tension between tax policies that advance national welfare by taxing after-tax foreign income, and those that advance global welfare by taxing foreign income while permitting taxpayers to claim foreign tax credits. The practice of most of the world in effectively exempting most foreign income from taxation, is, by this reasoning, difficult to understand, since it is inconsistent with either national or global interests.

### *Ownership Neutrality*

Investment by domestic firms at home and abroad is likely to influence investment by foreign firms, which is inconsistent with the logic underlying capital export neutrality and national neutrality. If greater investment abroad by home-country firms triggers greater investment by domestic or foreign firms in the home country, and there is considerable evidence that it does,<sup>6</sup> then it no longer follows that the home country maximizes its welfare by taxing foreign income while permitting only a deduction for foreign taxes paid. The reason is that, from the standpoint of the home country, greater foreign investment by domestic firms does not come at the cost of reduced domestic investment, so there is no longer a welfare loss associated with reducing investment that is already excessively discouraged by domestic taxes. From the standpoint of global welfare, if home and foreign firms compete for the ownership of capital around the world, and the productivity of an investment depends on its ownership, then it is no longer the case that the taxation of foreign income together with the provision of foreign tax credits necessarily contributes to global productive efficiency.

The importance of ownership to productivity is reflected in the modern theory of foreign direct investment, which is based on a transaction-cost approach whereby the market advantages of multinational firms stem from the benefits conferred by joint ownership of assets across locations. It is also consistent with the scale of operation of the large and extremely active worldwide market in mergers, acquisitions, and asset divesti-

<sup>6</sup> This includes aggregate time-series evidence of the behavior of U.S. multinational firms (Desai, Foley and Hines, 2005), aggregate evidence for Australia (Faeth, 2006), industry-level studies of Germany (Arndt, Buch, and Schnitzer, 2007) and Canada (Hejazi and Pauly, 2003), and firm-level evidence for the United States (Desai, Foley and Hines, forthcoming), the United Kingdom (Simpson, 2008) and Germany (Kleinert and Toubal, 2007).

tures, with participating firms willing to bear the costs of the associated ownership realignments in return for the advantages that are associated with them. The modern property rights approach to the theory of the firm, as developed in Grossman and Hart (1986) and Hart and Moore (1990), suggests that the prevalence of incomplete contracts justifies particular configurations of ownership arrangements. It is the ability to exercise power through residual rights when contracts cannot prespecify outcomes that makes ownership important, and such settings are particularly likely to characterize multinational firms investing abroad. Desai, Foley and Hines (2004) analyze the changing ownership decisions of multinational firms, finding that globalization has made firms reluctant to share ownership of foreign affiliates, given the higher returns to coordinated transactions inside firms.

Tax systems satisfy capital ownership neutrality if they do not distort ownership patterns (Desai and Hines, 2003, 2004). Capital ownership neutrality is important to efficiency only insofar as ownership is important to efficiency, a notion that is ruled out by assumption in the Musgrave framework that serves as the basis of capital export neutrality and national neutrality. If the productivity of a business asset depends on who owns it together with other assets, then tax systems promote efficiency if they encourage the most productive ownership of assets within the set of feasible investors.

Capital ownership neutrality is satisfied if all countries exempt foreign income from taxation, since taxation would then not favor one set of potential investors at the expense of another, but the exemption of foreign income from taxation is not necessary for capital ownership neutrality to be satisfied. If all countries tax foreign income (possibly at different rates), while permitting taxpayers to claim foreign tax credits, then ownership would be determined by productivity differences

and not tax differences, thereby meeting the requirements for capital ownership neutrality. In this case the total tax burden on foreign and domestic investment varies between taxpayers with different home countries, but every investor has an incentive to allocate investments in a way that maximizes pretax returns.

The same circumstances that make capital ownership neutrality desirable from the standpoint of world welfare also imply that countries disregarding world welfare have incentives to exempt foreign income from taxation no matter what other countries do. The reason is that, from an ownership standpoint, additional outbound foreign investment does not reduce domestic tax revenue, since any net reduction in home-country investment by domestic firms is offset by greater investment by foreign firms. With unchanging domestic tax revenue, home-country welfare increases in the after-tax profitability of domestic companies, which is maximized if foreign profits are exempt from taxation. Tax systems that exempt foreign income from taxation are, therefore, said to satisfy national ownership neutrality. Hence, it is possible to understand why so many countries exempt foreign income from taxation, and it follows that, if every country did so, tax systems would conform, capital ownership would be allocated efficiently, and global output would thereby be maximized.

#### *Implications for Domestic Expense Deductions*

Competing efficiency concepts carry differing implications for efficient taxation of foreign income, which in turn influence the desirability of permitting taxpayers to take deductions for domestic expenses. If international investors do not compete for potential ownership of the same assets, and greater foreign investment comes at the cost of reduced domestic investment, then governments promote national

welfare by taxing foreign income on accrual while providing only deductions for foreign income tax payments. Under the same circumstances, governments promote global welfare by permitting taxpayers to claim tax credits for foreign tax payments, a policy that may also advance national welfare if nations cooperate to share the benefits of international economic policies. In both of these cases, full deductibility of domestic expenses is consistent with efficiency. Governments that tax foreign income while permitting only a deduction for foreign income tax payments subject after-foreign-tax returns to home country taxation, and expenses incurred to produce these returns are properly deductible. Governments that tax worldwide income while providing foreign tax credits do so to promote global efficiency; since domestic plus foreign returns are cumulatively taxed at the domestic tax rate, efficiency requires that the expenses incurred to produce these returns should be deductible at the domestic tax rate.

If greater foreign activity is accompanied by higher levels of domestic activity, and the ownership of active business assets influences their productivity, then countries benefit from exempting foreign income from taxation, and global efficiency requires that all nations tax foreign income in the same way. In this setting it follows that the exemption of foreign income should be accompanied by permitting full deductibility of domestic expenses, since doing so advances national welfare, and is consistent with global efficiency if it is also the practice of other countries. A policy that instead limits domestic expense deductions based on indicators of relative foreign and domestic activity or income would effectively tax foreign income, thereby introducing ownership distortions. For example, if a country permits only a portion of domestic expenses to be deducted by firms owning foreign assets, the affected firms have incentives

both to shed some of their foreign assets and to acquire other firms that have significant domestic assets. Firms unable to claim full deductions for their domestic expenses would also become attractive targets for foreign takeovers structured so that the combined firm was not subject to the expense allocation rules. Indeed, a tax system inevitably influences business ownership decisions whenever the tax treatment of domestic expenses is contingent on the ownership of foreign assets or the receipt of foreign income.

Firms with foreign income that is exempt from home-country taxation have incentives to allocate capital, management attention, and other resources between foreign and domestic production so that the after-foreign-tax marginal productivity of resources devoted to foreign production just equals the after-home-tax marginal productivity of the same resources devoted to domestic production. This marginal productivity condition is efficient because it reflects the tradeoffs made by most of the world's investors and is, therefore, capitalized into market prices. It follows that efficiency also requires that firms choosing among domestic expenses that contribute to domestic and foreign profitability similarly equate after-foreign-tax marginal foreign profitability with after-home-tax domestic profitability, since otherwise productivity could be augmented by altering the mix of capital and current expenditures. This marginal productivity condition for expenses is satisfied only if domestic expenses are fully deductible and, therefore, not contingent on the locations in which the corresponding income is earned.

## ANALYSIS OF DOMESTIC EXPENSE DEDUCTIONS

This section offers an analytic evaluation of the domestic expense deduction rule that promotes efficiency as captured

by each of the norms described in the third section. It is most straightforward first to consider the case in which a home government treats foreign taxes simply as costs of doing business and, therefore, permits only a deduction for foreign income tax payments, unmindful of the ownership distortions associated with such a policy. An individual firm spends  $R$  at home to produce both domestic and foreign income, the value of its domestic production (net of other expenses) being denoted  $Q(R)$ , and the value of its production through a wholly owned foreign affiliate being denoted  $Q^*(R)$ . In order to abstract from issues of discounting and the taxation of capital returns, it is helpful to think of  $R$  as a current expense, such as administrative cost, that contributes to income production this year only. The home country taxes business income at rate  $\tau$ , and the foreign country taxes income at rate  $\tau^*$ . The home country permits the firm to deduct a fraction  $\alpha$  of its expenditures on  $R$  against home country taxable income, and the foreign country permits the firm to deduct a fraction  $\gamma$  of its expenditures on  $R$  against taxable income in the foreign country. Critically,  $\gamma$  is assumed to be unaffected by  $\alpha$  (and in practice is typically zero).

The firm's after-tax profit is denoted  $\pi$ , which with this regime of taxing foreign income takes the value:

$$[1] \quad \pi = [Q(R) + Q^*(R)(1 - \tau^*) + \tau^* \gamma R] (1 - \tau) - R + \tau \alpha R.$$

A profit-maximizing firm chooses  $R$  to maximize the value of  $\pi$  in equation [1], for which the first order condition is:

$$[2] \quad [Q'(R) + Q^{*'}(R)(1 - \tau^*) + \tau^* \gamma] (1 - \tau) = 1 - \tau \alpha.$$

Taking foreign taxes to be costs, the home country's return is  $Q(R) + Q^*(R)(1 - \tau^*) + \tau^* \gamma R - R$ , the difference between domestic profits plus after-tax foreign profits and the cost of domestic inputs. The first-order condition for maximizing the home country's return is then:

$$[3] \quad Q'(R) + Q^{*'}(R)(1 - \tau^*) + \tau^* \gamma = 1.$$

Together, equations [2] and [3] imply that  $\alpha = 1$ . Hence, the home country maximizes its total return by permitting taxpayers to deduct all of their domestic expenses, even though some of these expenses may contribute to productivity in the foreign country, and even though (although this is rarely the case) some of the expenses might be deductible in the foreign country.

This implication is consistent with the intuition that a home country that taxes foreign income should also permit full deductibility of domestic expenses associated with producing that income. Partial deductibility excessively discourages expenditures that create net value for the home country, so aligning taxpayer and national incentives therefore requires full deductibility. It is noteworthy that  $\gamma$  does not influence the implication that the home country maximizes value by permitting full deductibility, since a positive value of  $\gamma$  not only increases a firm's incentive to spend on  $R$ , but also increases the home country's return, which includes any foreign tax savings.<sup>7</sup>

It is very uncommon for countries to tax active foreign business income while providing only deductions for foreign income tax payments; instead, countries that tax foreign income typically provide foreign tax credits. The paradigmatic case of worldwide taxation with foreign tax credits is a system in which the home

<sup>7</sup> Recall that  $\gamma$  is assumed to be fixed; if international cost sharing agreements or other arrangements were to make the level of  $\gamma$  contingent on  $\alpha$ , then it would no longer necessarily follow that full domestic deductibility maximizes home country returns.

country taxes foreign income without deferral and with unlimited provision of foreign tax credits (including the possibility of a rebate if foreign tax rates exceed the home country rate). From the standpoint of home country firms facing such a regime of taxing their foreign investments, the foreign tax system becomes irrelevant, since any reduction in foreign taxes is immediately offset by greater home country taxes. The firm's after-tax profit, therefore, can be represented as:

$$[4] \quad \pi = [Q(R) + Q^*(R)](1 - \tau) - R + \tau\alpha R.$$

The first order condition corresponding to the profit-maximizing choice of  $R$  is:

$$[5] \quad [Q'(R) + Q^{*'}(R)](1 - \tau) = 1 - \tau\alpha.$$

The standard rationale behind having a system of worldwide taxation and unlimited foreign tax credits is to maximize world welfare by promoting capital export neutrality, as discussed in the third section. In this framework, world economic welfare is given by the difference between world output and the cost of world inputs, without regard to tax considerations. Maximizing world welfare in this context therefore corresponds to maximizing  $Q(R) + Q^*(R) - R$ , for which the first order condition is:

$$[6] \quad Q'(R) + Q^{*'}(R) = 1.$$

It is clear from inspection of equations [5] and [6] that once more the welfare maximizing policy is  $\alpha = 1$ , full domestic deductibility of domestic expenses, and again this is unaffected by whether or not the foreign country permits partial deductibility with a positive value of  $\gamma$ .

The implication that domestic expenses should be fully deductible against domestic income may not conform exactly to the common intuition that expenses incurred to produce foreign income should be deductible against home country taxable income to the extent that foreign income is taxed by the home country. Certainly in the case of worldwide taxation with foreign tax credits, the home country taxes foreign income, but the tax rate is zero if the average foreign tax rate equals the home country tax rate, and the home country tax rate on foreign income is negative if the foreign tax rate exceeds the domestic tax rate. In all of these cases, the analysis of equations [5] and [6] implies that efficiency requires the home government to permit full deductibility of domestic expenses. The reason is that the policy of worldwide taxation is premised on the notion that a country benefits by enacting domestic tax rules that maximize the world allocation of resources. Since both domestic and foreign returns are effectively taxed at the domestic tax rate, efficient incentives to devote resources to  $R$  require that the expense be fully deductible at the domestic tax rate also. By taxing foreign income and providing foreign tax credits the home country tax system removes any incentives created by foreign deductibility of expenses incurred in the home country, so it is necessary to provide full domestic deductibility to get the incentives right.<sup>8</sup>

Perhaps the most telling case is that in which the home country maximizes national welfare by promoting efficient asset ownership through exempting foreign income from taxation. With foreign income exempt from home country taxes, the firm's after tax profits are:

<sup>8</sup> It is worth noting that, in the unlikely event that the foreign government permits deductibility of a portion of home country expenditures on  $R$  through a positive value of  $\gamma$ , the home government immediately recoups the value of the deductibility by granting the home country taxpayer fewer foreign tax credits. Hence, from a government budgetary perspective, the cost of full deductibility of home-country expenses is offset to whatever extent foreign governments permit partial deductions for these expenses.

$$[7] \quad \pi = Q(R)(1-\tau) + Q^*(R)(1-\tau^*) \\ + \tau\alpha R + \tau^* \gamma R - R.$$

A profit maximizing firm chooses  $R$  to satisfy:

$$[8] \quad Q'(R)(1-\tau) + Q^{**}(R)(1-\tau^*) \\ + \tau^* \gamma = 1 - \tau\alpha.$$

It is important to identify the government's objective in this situation. Exempting foreign income from taxation makes sense from the standpoint of encouraging efficient asset ownership, given the importance of ownership to productivity. Exempting foreign income from taxation implies that the government values equally one dollar of after-tax domestic income earned by home-country firms and one dollar of after-foreign-tax foreign income, since home-country firms make this tradeoff at the margin. This relative valuation is sensible in a world of shifting ownership, since it is effectively imposed by the world capital market. Then the government chooses international tax policy to maximize:

$$[9] \quad Q(R) + \frac{Q^*(R)(1-\tau^*) + \tau^* \gamma R}{(1-\tau)} - R.$$

The term  $(1-\tau)$  appears in the denominator of the second term of [9] to reflect the fact that after-home-tax domestic income and after-foreign-tax foreign income are valued equally. Then maximizing the value of [9] implies:

$$[10] \quad Q'(R)(1-\tau) + Q^{**}(R)(1-\tau^*) \\ + \tau^* \gamma = 1 - \tau,$$

from which, together with equation [8], it is clear that yet again the welfare maximizing policy is  $\alpha = 1$ , or full domestic deductibility of home country expenses.

The conclusion that the home country maximizes welfare by permitting taxpayers

to deduct all of their domestic expenses follows from the relative valuation of foreign and domestic pretax incomes. This relative valuation is driven by the world market, which values after-tax income equally in every country, and which allocates capital and other resources in a manner consistent with this valuation. Individual countries benefit from adopting policies that are consistent with world valuations of after-tax income, which is why it is attractive to exempt foreign income from taxation and also why it is attractive to permit full deductibility of domestic expenses.

## CONCLUSION

Why should a country that exempts foreign income from taxation nevertheless permit full domestic deductions for expenditures that contribute to foreign profitability? The rationale for domestic expense deductibility is the same as the rationale for exempting foreign income from taxation: that tax systems with these features foster productivity associated with efficient ownership. The intuitive criticism that it is wrong to permit a deduction for an expense that generates untaxed income overlooks the important role of foreign investors and begs the question of why the home country exempts foreign income from taxation in the first place. The plain fact is that most countries in the world both exempt active foreign business income from taxation and permit full domestic deductibility of home-country expenses; and there are sound economic reasons why these policies go together and make sense in a world of shifting ownership.

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